

REMARKS

Claim 1 has been amended to include a definition of image gradation and subject matter recited in claims 8 and 9. Support for the definition of image gradation added to claim 1 is found on page 254, line 21 to page 255, line 1. Claim 10 has been amended so as to depend from claim 1. No issues of new matter are presented. Claims 8 and 9 have been canceled. Upon entry of this amendment, claims 1 - 4, 6, 7, and 10 - 19 will be pending in this application.

I. Response to Claim Rejection under 35 USC §112, Second Paragraph

Claims 1-4, 6-15 and 17-19 are rejected under 35 USC §112, second paragraph, as being indefinite. The Examiner states that in the phrase "wherein an image gradation obtained by heat development is 2 to 4" is unclear as to which image is being referred to.

Independent claim 1 has been amended to recite in part:

wherein an image gradation of an image obtained by heat development is 2 to 4, the image gradation being expressed as the gradient between optical densities 2.0 and 0.25 of a characteristic curve as represented by the following equation:

$$\text{Gamma} = (\text{Optical density 2.0} - \text{Optical density 0.25}) / (\log (\text{Fog density} + \text{Exposure amount providing an optical density of 2.0}) - \log (\text{Fog density} + \text{Exposure amount providing an optical density of 0.25})).$$

Claim 1 clearly states that the image gradation occurs in an image obtained from heat development and also clearly states the definition of the image gradation.

Applicant respectfully submits that, because independent claim 1 recites the image gradation clearly, its dependent claims 2 - 4, 6, 7, 10 - 15 and 17 - 19 are not indefinite. Claims 8 and 9 have been canceled. Reconsideration and withdrawal of the rejection are respectfully requested.

II. Response to Claim Rejection under 35 USC §103(a)

A. Rejection of Claims 1, 4-19 under 35 USC §103(a) as being unpatentable over the combination of Goto (Pub. No. US2002/0039707), Siga et al (US Patent No. 4,332,889) and Toya et al (US Patent No. 5,998,126)

The invention of amended claim 1 is a photothermographic material which is exposed with blue laser light having a short wavelength in a specific range, i.e. 350nm to 450nm, and is subjected to heat development. In addition, the photothermographic material of amended claim 1 has an image gradation in a range of 2 to 4. Furthermore, by using a silver-saving agent and a silver halide emulsion with a high silver iodide content, 40 to 100 mol%, the present invention can provide unexpected effects that are opposite from each other. That is, a high maximum density can be obtained by exposure of the blue laser having a short wavelength in a specific range (350nm to 450nm) while unprocessed stock storability and print-out (image storability) of the photothermographic material can be improved. Such unexpectedly superior effects are shown in Examples of the present Specification.

As shown in Table 2 of the present specification (page 257), comparing Sample No. 5 in which a silver iodobromide (silver iodide 3.5 mol%) emulsion is used and Sample No. 6 in which a silver-saving agent is further used, the maximum density (Dmax) of Sample No. 6 (Dmax 4.0) is higher than that of Sample No. 5 (Dmax 2.7). However, unprocessed stock storability and image storability (print-out) of Sample 6 remarkably deteriorate compared with those of Sample 5.

On the other hand, comparing Sample No. 2 in which a silver iodide emulsion is used and Sample No. 3 of the present invention in which a silver-saving agent is further

used, the maximum density (Dmax) of Sample No. 3 (Dmax 4.0) is higher than that of Sample No. 2 (Dmax 2.7). Nevertheless, unprocessed stock storability and image storability (print-out) of Sample 6 do not deteriorate, which are unexpectedly remarkable effects.

In the above comparative experiments, as described on page 254, section 2) "Exposure and heat development", exposure was conducted by using a NLHV3000E semiconductor laser (laser light wavelength: 405 nm). The wavelength is within the range recited in amended claim 1.

In the comparative experiments described in Declaration dated June, 6, 2005, the same laser (NLHV3000E semiconductor laser, laser light wavelength: 405 nm) was used since the comparative experiment in the June 6 Declaration was based on Example 1 of the present specification. Therefore, the wavelength is within the range recited in amended claim 1.

In either one of Goto and Toya et al, exposure is conducted with light having a wavelength in red or infrared region, which region is in far longer side than the region of 350nm to 450nm. There is no teaching in these references that a high maximum density can be obtained by exposure of blue laser light having a short wavelength as in the present invention.

The photothermographic material disclosed in Siga et al is a photothermographic material of post activation type, which is nonphotosensitive under normal lighting conditions and needs special components (d) an oxidizing agent for free silver and (e) a photoreactive halogeno oxidizing agent, as explained in the previous Response filed on June 14, 2005 (please see page 11). Therefore, there is neither description nor suggestion of the present invention in Siga et al. Furthermore, one of ordinary skill in

the art would not have been motivated to combine Siga et al with Goto or Toya et al, since the image forming method and mechanism of the photothermographic material of Siga et al is different from those of usual-type photothermographic material (photothermographic material having a photosensitivity without being subjected to a preliminary treatment) such as the photothermographic material of the present invention or photothermographic materials described in Goto and Toya et al.

Accordingly, one of ordinary skill in the art cannot obtain the invention in amended claims 1, 4, 6, 7, and 10 - 19 based on the combination of disclosures in Goto, Toya et al and Siga et al. Claims 5, 8 and 9 have been canceled. Applicant respectfully requests withdrawal of this rejection.

B. Rejection of Claims 1 - 4, 6 - 15, and 17 - 19 under 35 U.S.C. §103(a) as being unpatentable over the combination of Katoh (Pub. No. 2001/0038977), Siga et al (US Patent No. 4,332,889) and Toya et al (US Patent No. 5,998,126)

Similar to the rejection of claims over the combination of Goto, Siga et al and Toya et al, none of the cited references describes or suggests a photothermographic material of the present invention and the effects obtained therefrom.

In either one of Kato and Toya et al, exposure is conducted with light having a wavelength in red or infrared region, which region is in far longer side than the region of 350nm to 450nm. There is no teaching in these references that a high maximum density can be obtained by exposure of blue laser light having a short wavelength as in the present invention.

With respect to Siga et al, please see above.

Furthermore, one of ordinary skill in the art would not have been motivated to

combine Siga et al with Katoh or Toya et al, since the image forming method and mechanism of the photothermographic material of Siga et al is different from those of usual-type photothermographic material (photothermographic material having a photosensitivity without being subjected to a preliminary treatment) such as the photothermographic material of the present invention or photothermographic materials described in Katoh and Toya et al.

Therefore, one of ordinary skill in the art cannot obtain the invention in amended claims 1 - 4, 6, 7, 10 - 15, and 17 - 19 based on the combination of disclosures in Katoh, Toya et al and Siga et al. Claims 8 and 9 have been cancelled. Accordingly, applicant respectfully requests withdrawal of this rejection.

C. Rejection of Claims 1 - 4, 6 - 15, 17 - 19 under 35 U.S.C. §103(a) as being unpatentable over the combination of EP 1168066 (EP' 066) and Siga et al (US Patent No. 4,332,889)

Similar to the rejection of claims over the combination of Goto, Siga et al and Toya et al, or the combination of Kato, Siga et al, and Toya et al, none of the cited references describes or suggests a photothermographic material of the present invention and the effects obtained therefrom.

In EP '066, exposure is conducted with light having a wavelength in red or infrared region, which region is in far longer side than the region from 350nm to 450nm. There is no teaching in this reference that a high maximum density can be obtained by exposure of blue laser light having a short wavelength as in the present invention.

With respect to Siga et al, please see above.

Furthermore, one of ordinary skill in the art would not have conceive to combine

Siga et al with EP' 066, since the image forming method and mechanism of the photothermographic material of Siga et al is different from those of usual-type photothermographic material (photothermographic material having a photosensitivity without being subjected to a preliminary treatment) such as the photothermographic material of the present invention or photothermographic materials described in EP '066.

Therefore, one of ordinary skill in the art cannot obtain the invention in amended claims 1 - 4, 6, 7, 10 - 15, 17 - 19 based on the combination of disclosures in EP '066 and Siga et al. Claims 8 and 9 have been cancelled. Accordingly, applicant respectfully requests withdrawal of this rejection.

III. Conclusion

In view of the above remarks, all the claims pending in the application are believed to be allowable. Early and favorable action is respectfully requested.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Sheldon J. Moss", written over a horizontal line.

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January 12, 2006